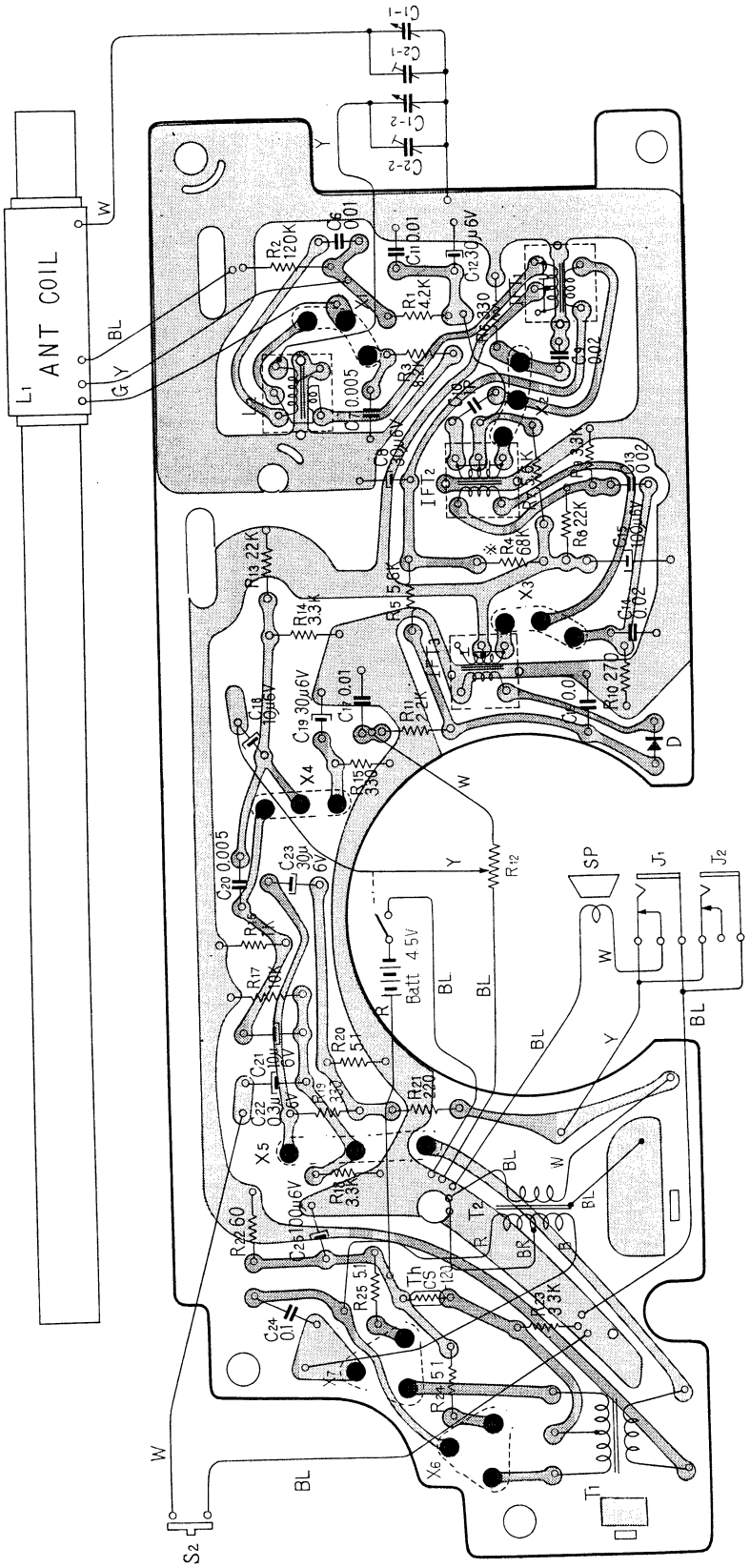
SONY® Transistor Radio Circuits 2

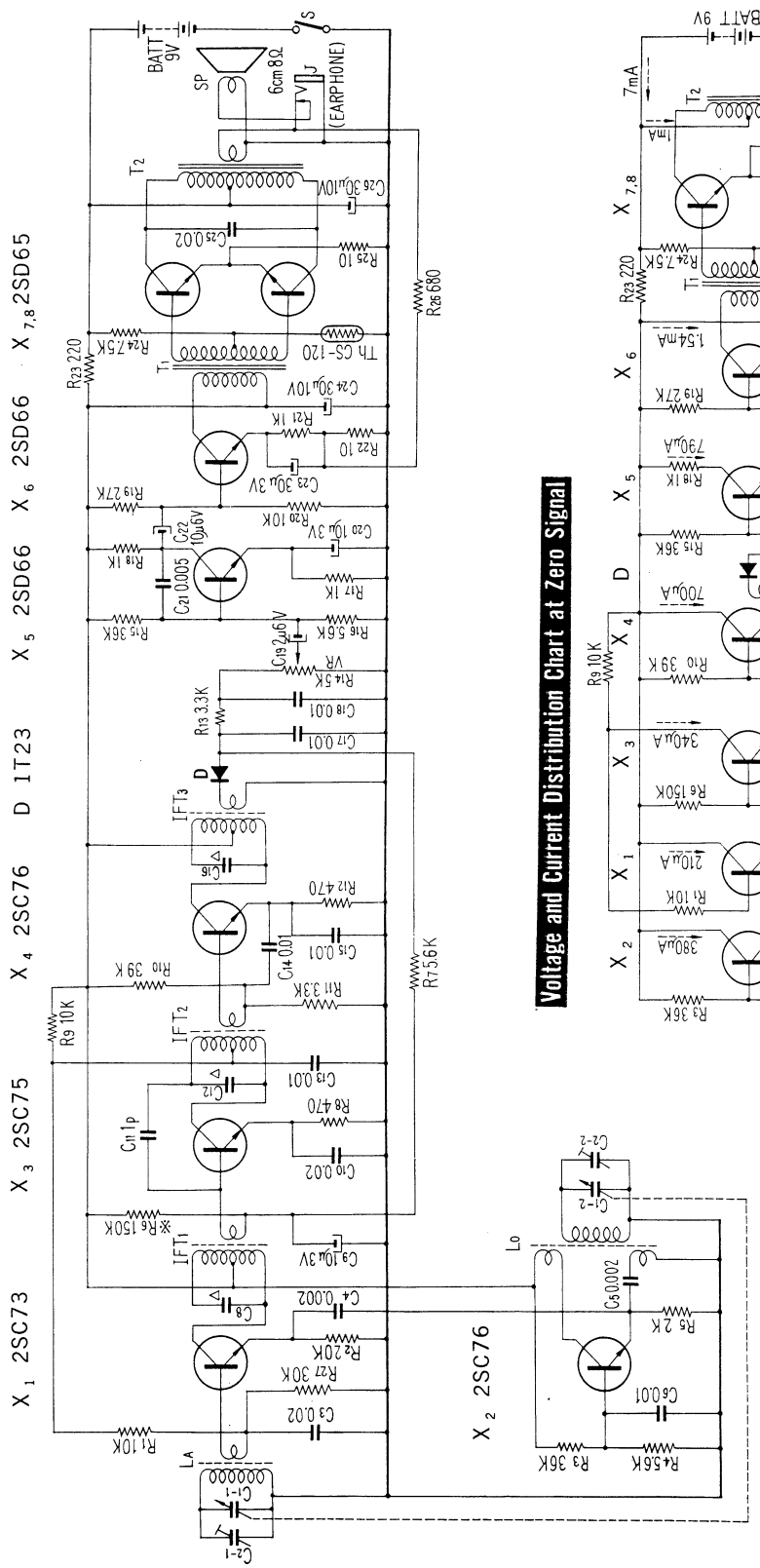
Mounting Diagram

—Printed Side—

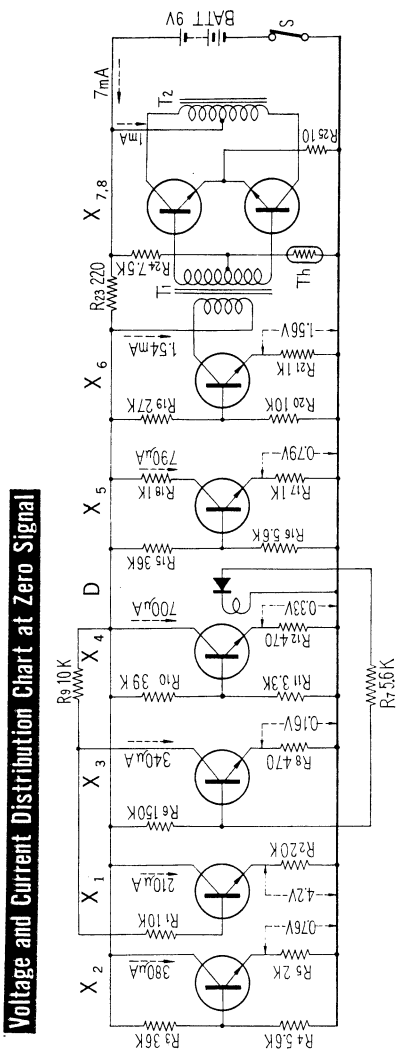


Schematic Diagram

Up to Serial No. 15,000



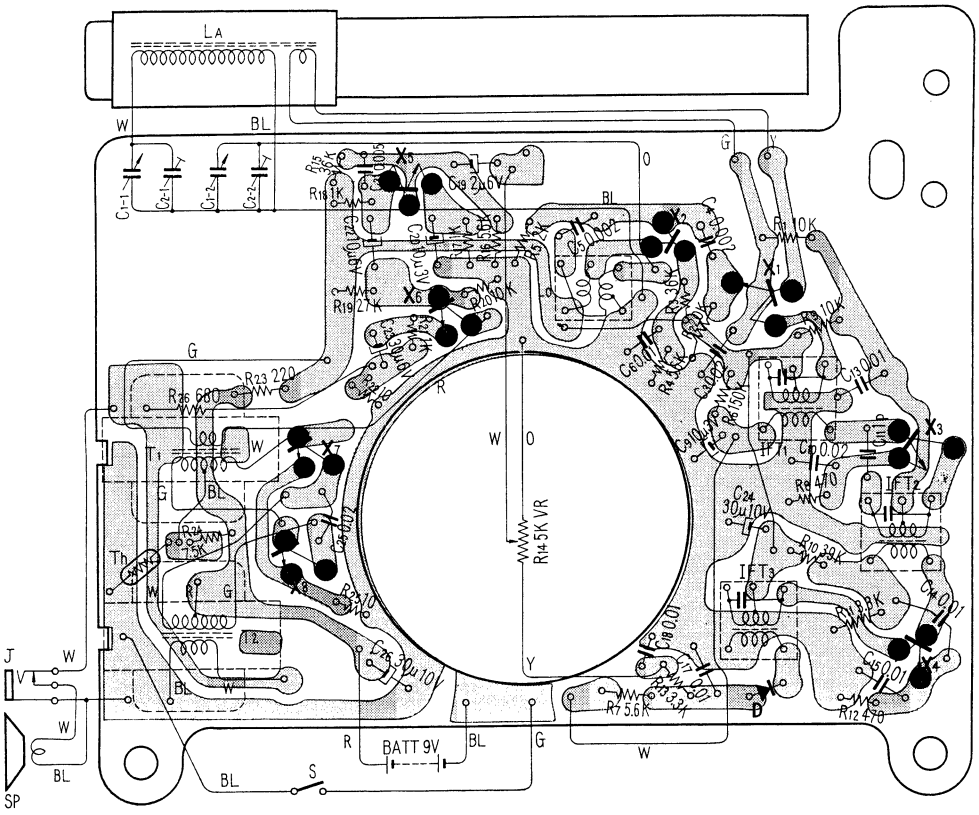
Voltage and Current Distribution Chart at Zero Signal



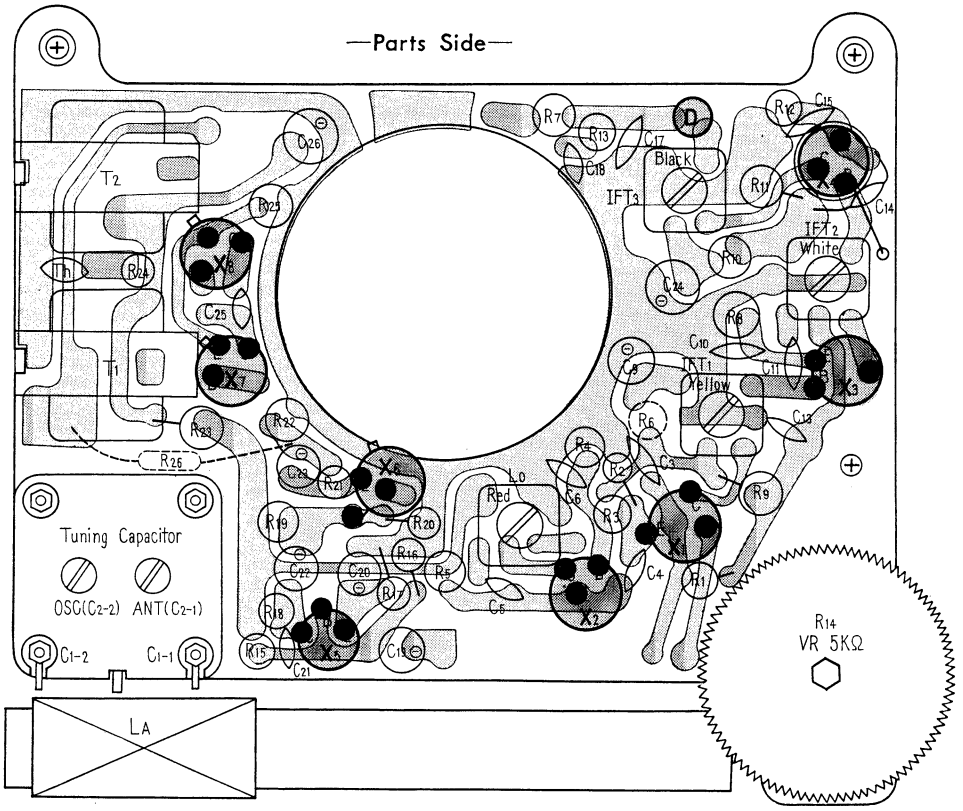
Mounting Diagram

Up to Serial No. 15,000

—Printed Side—

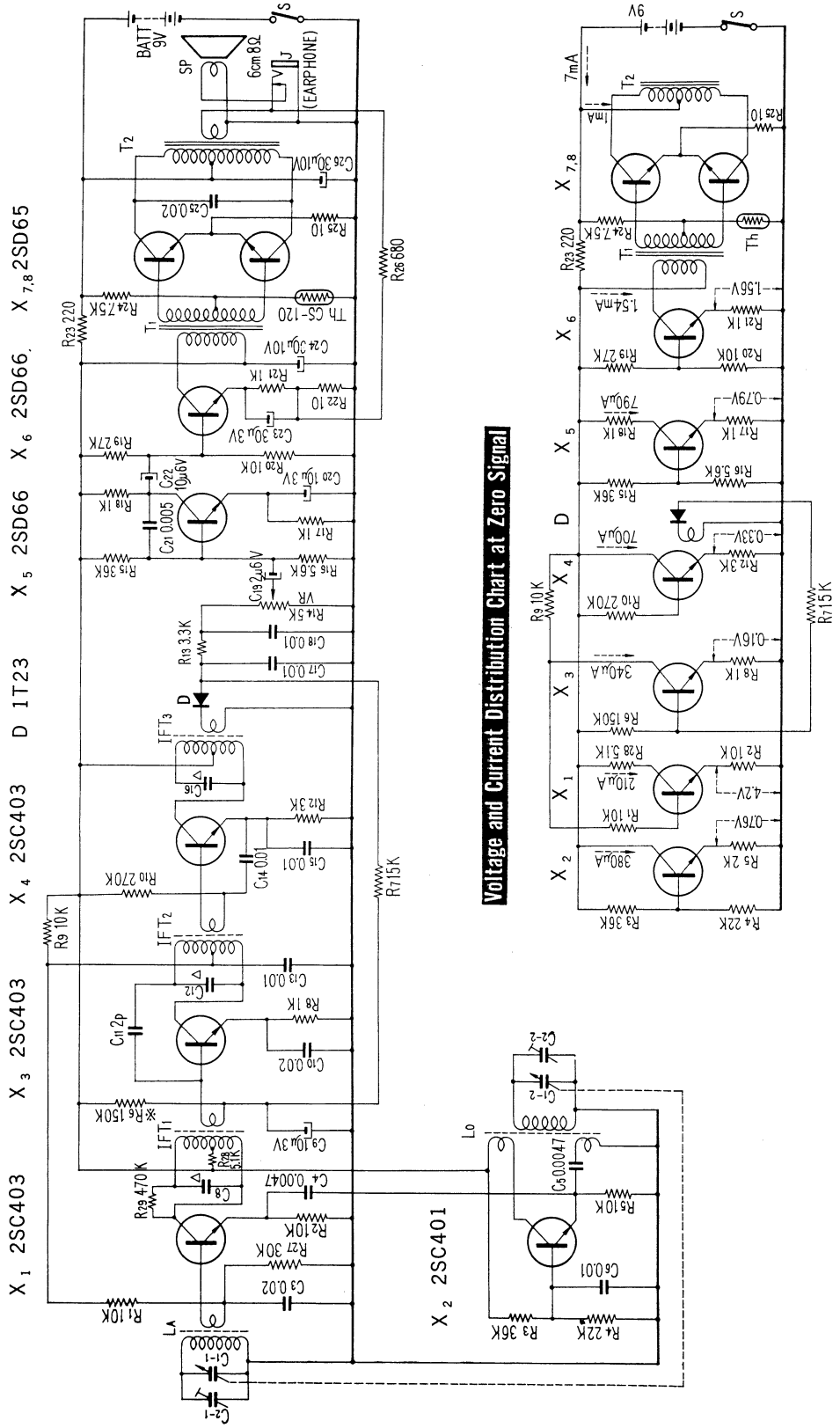


—Parts Side—



Schematic Diagram

After Serial No. 79,001

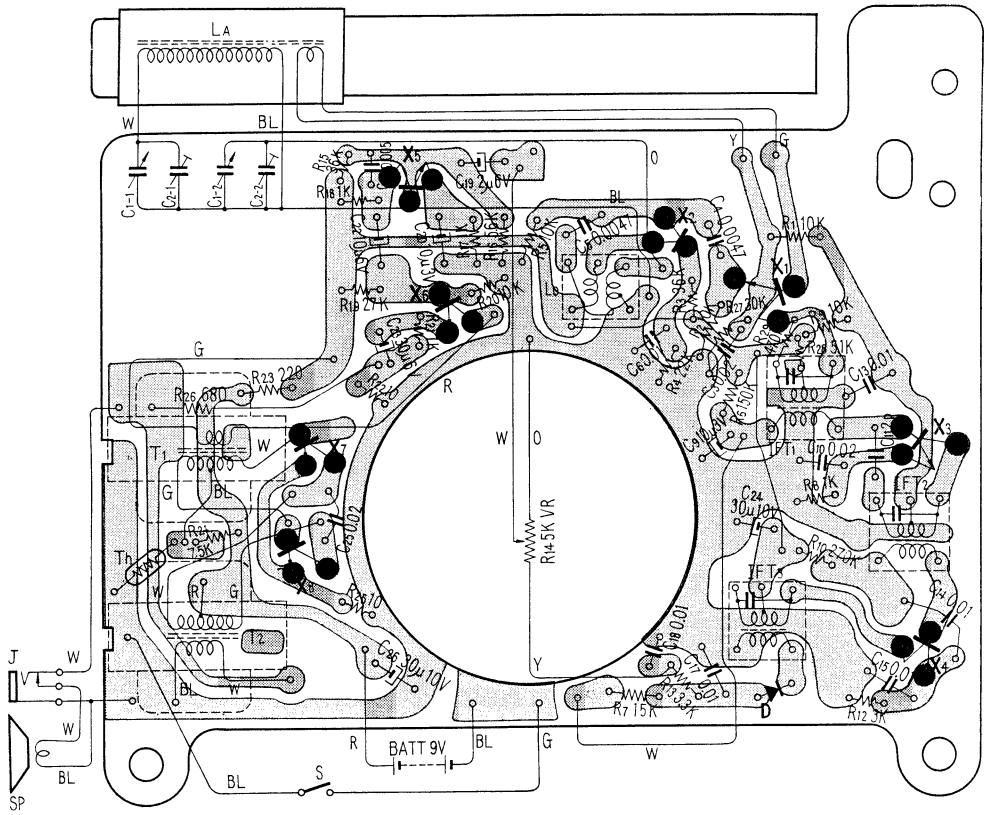


Voltage and Current Distribution Chart at Zero Signal

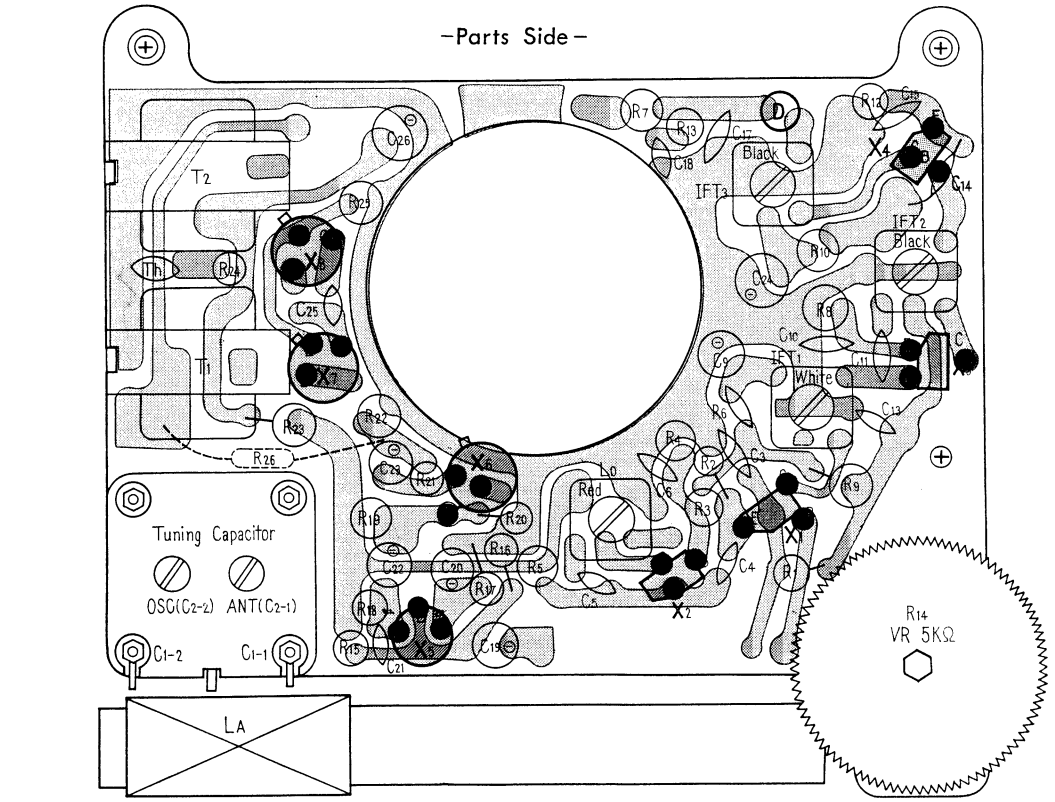
Mounting Diagram

After Serial No. 15,001

—Printed Side—



—Parts Side—



Parts mounted on the printed side

R_{26}, R_{27}, R_{28}, R_{29}

2R-21

Specifications

Circuit :	8 Transistor Superheterodyne
Frequency Coverage :	MW 530—1,605 Kc (566—187 m)
Intermediate Frequency :	455 Kc
Antenna System :	Built-in Ferrite Bar Antenna
Maximum Sensitivity (at 10 mW output) :	37 dB (70 μV/m)
Selectivity :	21 dB at 10 Kc off resonance, at 1,400 Kc
S/N Ratio (at 1 mV/m input) :	25 dB
Output Power :	120 mW (undistorted)
Current Drain :	7 mA at zero signal, 32 mA at 120 mW output
Speaker :	2-1/4″ (5.7 cm) PM dynamic, 8 Ω
Battery :	Eveready 216 (006 P) or Equivalent (9 Volts)
Dimensions :	2-15/16″ × 2-3/4″ × 1-3/16″ (75 × 70 × 30 mm)
Weight :	7/16 lb. (200 g)

Adjustments

a) Frequency Coverage Adjustment

Lower Limit	Adjust	Upper Limit	Adjust
520 Kc	Core of OSC Coil (L_0)	1,680 Kc	OSC Trimmer (C_{2-2})

b) Tracking Adjustment

Lower Checking Point	Adjust	Upper Checking Point	Adjust
620 Kc	Position of ANT Coil (LA)	1,400 Kc	ANT Trimmer (C_{2-1})

2R-21

Specifications

Circuit :	8 Transistor Superheterodyne
Frequency Coverage :	MW 530—1,605 Kc (566—187 m)
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Antenna System :	Built-in Ferrite Bar Antenna
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Battery :	Eveready 216 (006 P) or Equivalent (9 Volts)
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Weight :	7/16 lb. (200 g)

SONY®

SERVICING GUIDE

To Remove the Circuit Board from the Cabinet

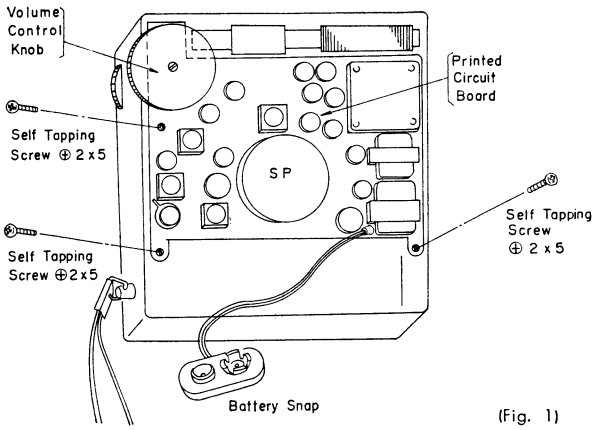
1) Open the Back Cover.
2) Remove the Battery from the Battery Snap.
3) Remove three Circuit Board Holding Screws shown in Fig. 1.
4) Remove the Circuit Board from the Cabinet gently taking care not to cut the lead wires.

Frequency Coverage and Tracking Adjustment

Preparation

Receiver to be aligned

Power source voltage :	9 Volts
Load for output :	Connect 8Ω resistor instead of Speaker
Volume control setting :	Maximum
Signal source :	Use SSG (Standard Signal Generator) which can deliver RF signals modulated at 30% with 1,000 c/s.
Output meter :	Connect across the load resistor 8Ω. (VTVM can be used also)
Antenna :	Use a loop antenna.



(Fig. 1)

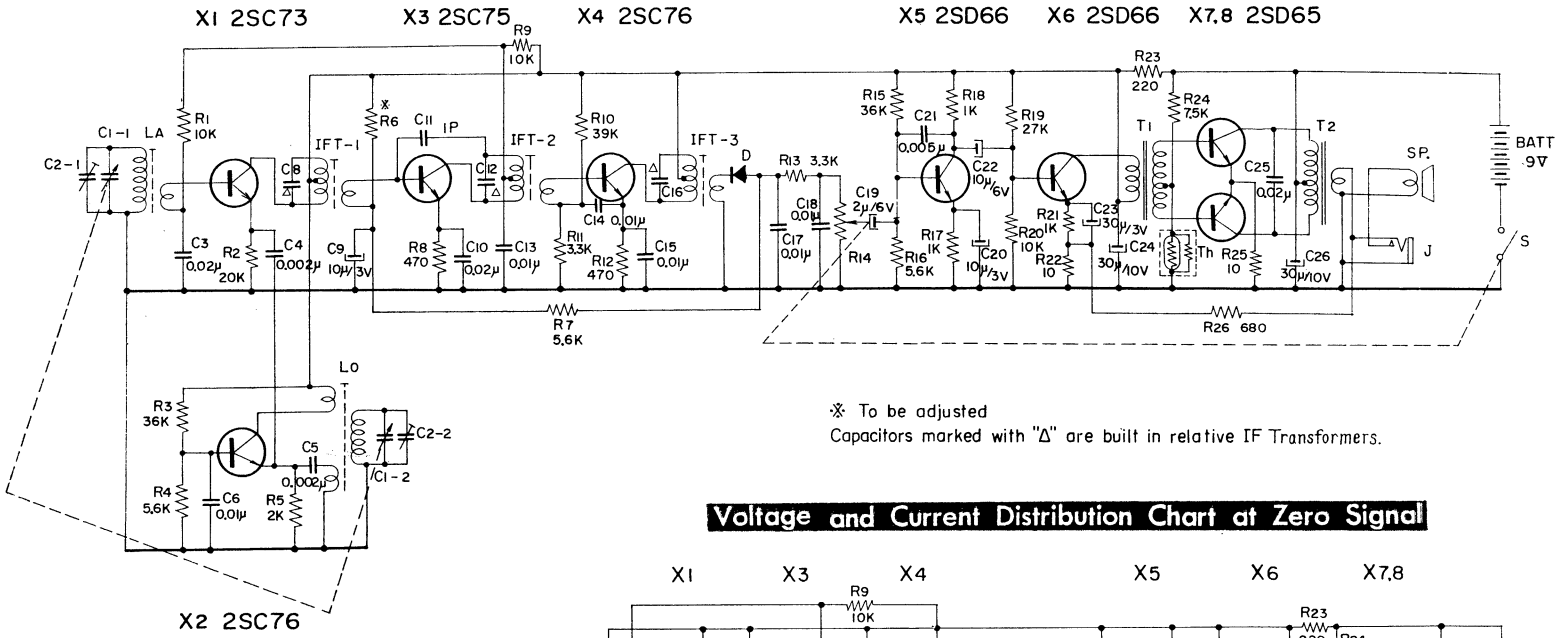
a) Frequency Coverage Adjustment

1. Deliver a 520 Kc signal from the SSG.
2. Turn the Tuning Knob counter-clockwise to the full. (maximum capacitance position)
3. Adjust the core of the Oscillator Coil (LO) to tune to the signal.
4. Turn the Tuning Knob clockwise to the full. (minimum capacitance position).
5. Deliver a 1,680 Kc signal from the SSG.
6. Adjust the OSC Trimmer Capacitor (C_{2-2}) to tune to the signal.
7. Repeat the above procedures (1.~6.) until the frequency range between 520 Kc and 1,680 Kc is fully covered.

b) Tracking Adjustment

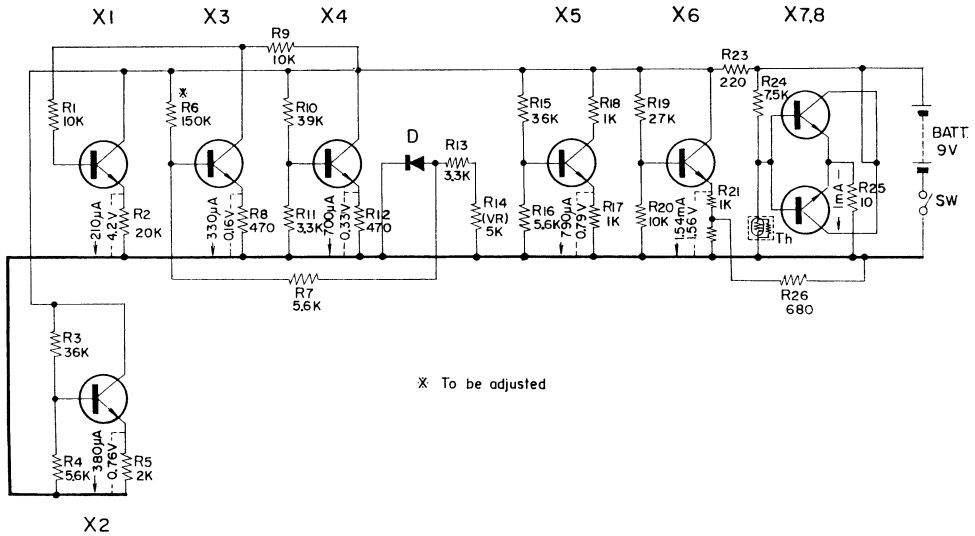
1. Deliver a 620 Kc signal from the SSG.
2. Tune to the signal by turning the Tuning Knob.
3. Adjust the position of the Ferrite Bar Antenna Coil (LA) along the Ferrite Bar to obtain the maximum output.
4. Deliver a 1,400 Kc signal from the SSG.
5. Tune to the signal by turning the Tuning Knob.
6. Adjust the Antenna Trimmer Capacitor (C_{2-1}) to obtain the maximum output.
7. Repeat the above procedures (1.~6.) until the maximum output is obtained.

Schematic Diagram



※ To be adjusted
Capacitors marked with "Δ" are built in relative IF Transformers.

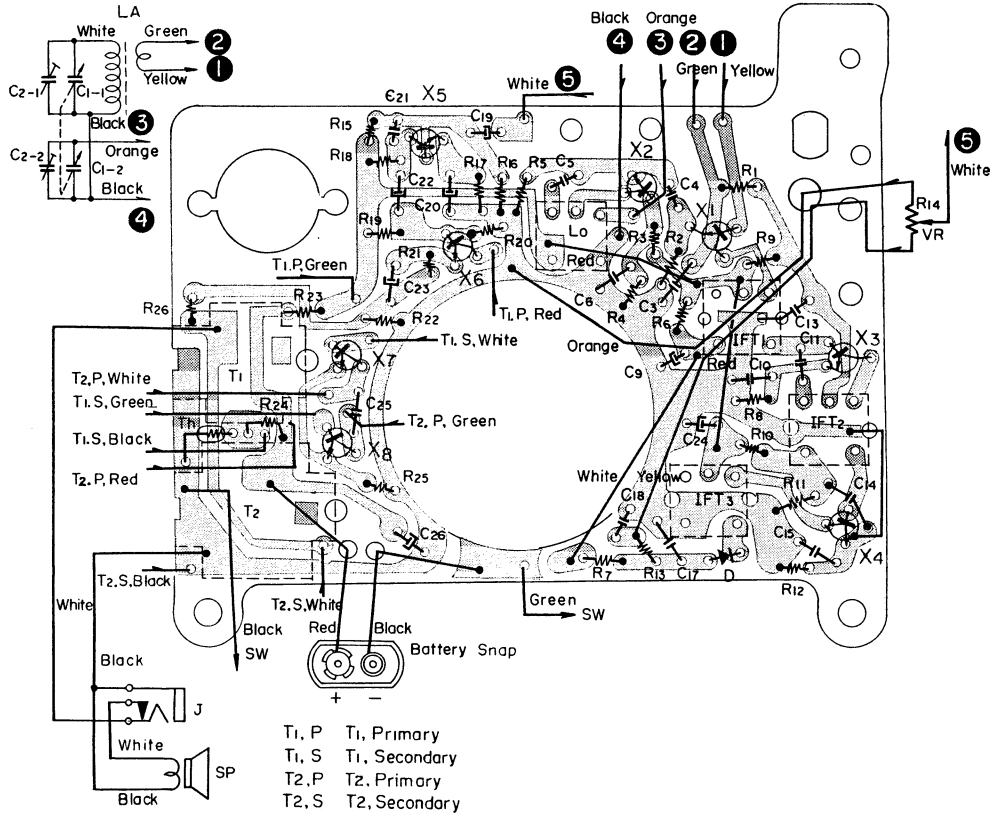
Voltage and Current Distribution Chart at Zero Signal



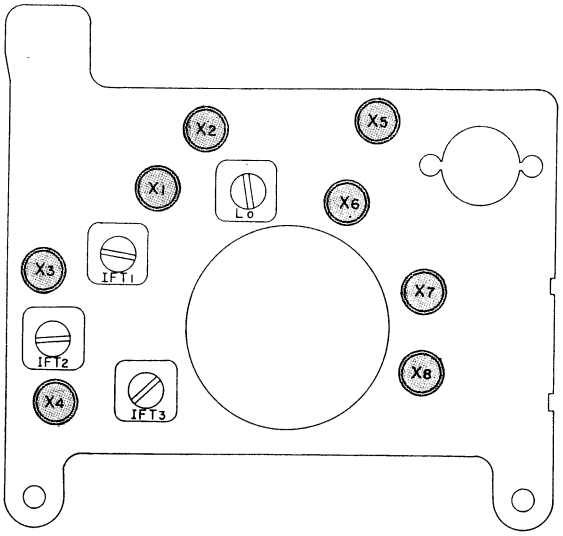
※ To be adjusted

Mounting Diagram

— Printed Side —

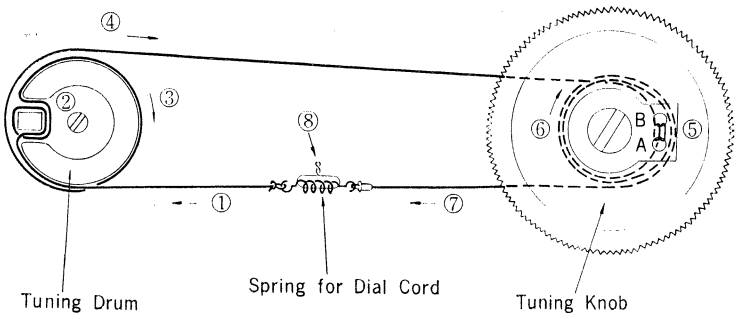


Location of Major Electrical Parts



To String the Dial Cord

1) Set the Tuning Capacitor to the minimum capacitance position.
2) Place the Tuning Drum and the Tuning Knob to the position shown in Fig. 2.
3) Tie the one end of Dial String to the Spring.
4) Hold the Spring with fingers at the position indicated in Fig. 2.
5) Wrap the Dial String 1-1/4 turns around the Tuning Drum.
6) Wrap the Dial String around the specified parts on the Tuning Drum two turns as shown in Fig. 2.
7) Route the Dial String to the Tuning Knob.
8) Thread the Dial String from A to B of the Dial String Fixing Holes on the Tuning Knob two times as shown in Fig. 2.
9) Wrap the Dial String around the Tuning Knob two turns.
10) Tie the Dial String to the Spring with an eyelet.
11) Fix the Spring with a piece of wire as shown in Fig. 2.



(Fig. 2)

Parts List

Part No.	Symbol	Description
	X_1	Transistor 2SC73
	X_2	〃 2SC76
	X_3	〃 2SC75
	X_4	〃 2SC76
	X_5	〃 2SD66
	X_6	〃 2SD66
	X_7	〃 2SD65
	X_8	〃 2SD65
	D	Diode 1T23G
	Th	Thermistor CS-120
1-401-215-11	L_A	Ferrite Bar Antenna
1-405-095-11	L_O	Oscillator Coil
1-403-025-02	IFT_1	IF Transformer
-026-02	IFT_2	〃
-027-02	IFT_3	〃
1-423-066-21	T_1	Driver Transformer
1-427-090-13	T_2	Output Transformer
1-507-011-01	J	Earphone Jack
1-502-093-12	SP	Speaker
	S	Power Switch (built in VR)
1-528-006-00	Batt.	Battery (9 V)
		Resistor
1-201-145-11	R_1	10K Ω 1/8W Composition
1-203-631-11	R_2	20K Ω 1/16W Carbon
-593-11	R_3	36K Ω 〃 〃
1-201-106-11	R_4	5.6K Ω 1/8W Composition
1-203-446-11	R_5	2K Ω 1/16W Carbon
-433-11	*R_6	160K Ω 〃 〃
1-201-106-11	R_7	5.6K Ω 1/8W Composition
1-203-420-11	R_8	470 Ω 1/16W Carbon
-427-11	R_9	10K Ω 〃 〃
1-201-695-11	R_{10}	39K Ω 1/8W Composition
-158-11	R_{11}	3.3K Ω 〃 〃
1-203-420-11	R_{12}	470 Ω 1/16W Carbon
1-201-158-11	R_{13}	3.3K Ω 1/8W Ccmposition
1-221-585-11	R_{14}	5K Ω Volume Control
1-201-694-11	R_{15}	36K Ω 1/8W Composition
-106-11	R_{16}	5.6K Ω 〃 〃
1-201-163-11	R_{17}	1K Ω 1/8W Composition
-163-11	R_{18}	1K Ω 〃 〃
-166-11	R_{19}	27K Ω 〃 〃
-145-11	R_{20}	10K Ω 〃 〃
-163-11	R_{21}	1K Ω 〃 〃
-161-11	R_{22}	10 Ω 〃 〃
-130-11	R_{23}	220 Ω 〃 〃
-107-11	R_{24}	7.5K Ω 〃 〃
-161-11	R_{25}	10 Ω 〃 〃
-275-11	R_{26}	680 Ω 〃 〃
		Capacitor
1-151-054-00	C_1	Tuning Capacitor, 2 gang
	C_2	Trimmer Capacitor, 2 unit
1-101-073-14	C_3	0.02μF Ceramic
1-105-104-11	C_4	0.002μF Mylar
-104-11	C_5	0.002μF 〃
-072-14	C_6	0.01μF Ceramic
	C_7	—deleted—
	C_8	(Built in IFT_1)
1-121-103-05	C_9	10μF 3 V Electrolytic
1-101-073-14	C_{10}	0.02μF Ceramic
-062-11	C_{11}	1PF Ceramic
	C_{12}	(Built in IFT_2)
1-101-072-14	C_{13}	0.01μF Ceramic
-072-14	C_{14}	0.01μF 〃
-072-14	C_{15}	0.01μF 〃
	C_{16}	(Built in IFT_3)
1-101-072-14	C_{17}	0.01μF Ceramic
-072-14	C_{18}	0.01μF 〃
1-121-181-00	C_{19}	2μF 6 V Electrolytic
-103-05	C_{20}	10μF 3 V 〃
1-101-140-14	C_{21}	0.005μF Ceramic
1-121-104-05	C_{22}	10μF 6 V Electrolytic
-101-05	C_{23}	30μF 3 V 〃
-110-05	C_{24}	30μF 10 V 〃
1-101-073-14	C_{25}	0.02μF Ceramic
1-121-110-05	C_{26}	30μF 10 V Electrolytic

* To be adjusted

SONY CORPORATION

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